WHAT IS CLAIMED IS:

1. A method for continuous production of diaryl carbonates by reaction of a dialkyl carbonate and an aromatic alcohol in the presence of a transesterification catalyst comprising the steps of:

(a) introducing reactant streams containing dialkyl carbonate, aromatic alcohol and transesterification catalyst to a first reactive distillation column to produce alkyl aryl carbonate and alkyl alcohol;

(b) recovering from the first reactive distillation column a first top stream containing dialkyl carbonate and alkyl alcohol and a first bottom stream containing alkyl aryl carbonate;

(c) introducing the first bottom stream into a second reactive distillation column to produce diaryl carbonate by disproportionation of the alkyl aryl carbonate;

(d) recovering from the second reactive distillation column a first side stream containing dialkyl carbonate and alkyl aryl ether and a second bottom stream containing diaryl carbonate, alkyl aryl carbonate and dialkyl carbonate;

(e) introducing the first side stream into a second rectification column to separate a dialkyl carbonate stream from the alkyl aryl ether, and recycling the dialkyl carbonate stream to the first rectification column;

(f) introducing the second bottom stream to a third reactive distillation column to further drive the reaction toward diaryl carbonate;

(g) recovering from the third reactive distillation column a second top stream containing unreacted aromatic alcohol, dialkyl carbonate

and alkyl aryl ether and recycling the second top stream to the first reactive distillation column;

(h) introducing the first top stream into a first rectification column;

(i) recovering from the first rectification column an azeotrope top stream consisting essentially of dialkyl carbonate/alkyl alcohol azeotrope and a third bottom stream containing dialkyl carbonate, and recycling the third bottom stream to the first reactive distillation column; and

(j) recovering a product stream containing essentially all of the diaryl carbonate produced from the bottom of the third reactive distillation column.

2. The method of claim 1, further comprising the steps of recovering a liquid bottom stream from first rectification column and introducing the liquid bottom stream to the top of the second reactive distillation column; and

recovering a vapor stream containing dialkyl carbonate and introducing the vapor stream to the bottom of the first rectification column, whereby the second reactive distillation column serves as a reboiler for the first rectification column.

3. The method of claim 1, further comprising the step of augmenting the second bottom stream with an additional stream containing alkyl aryl carbonate.

4. The method of claim 1, wherein the first reactive distillation column is maintained at a temperature of from 100°C to 300°C, and a pressure at the top of the column in the range of 50 mbar to 20 bar.

5. The method of claim 4, wherein the second reactive distillation column is maintained at a temperature of from 50 to 300°C, and a pressure of from 50 mbar to 10 bar.

6. The method of claim 5, wherein the second reactive distillation column is maintained at a pressure which is lower than the pressure of first reactive distillation column.

7. The method of claim 1, wherein the second reactive distillation column is maintained at a temperature of from 50 to 300°C, and a pressure of from 50 mbar to 10 bar.

8. The method of claim 7, wherein the second reactive distillation column is maintained at a pressure which is lower than the pressure of first reactive distillation column.

9. The method of claim 1, wherein the third reactive distillation column is maintained at a temperature of from 100 to 300°C, and a pressure of from 10 mbar to 3 bar.

10. The method of claim 9, wherein the first reactive distillation column is maintained at a temperature of from 100°C to 300°C, and a pressure at the top of the column in the range of 50 mbar to 20 bar.

11. The method of claim 10, wherein the second reactive distillation column is maintained at a temperature of from 50 to 300°C, and a pressure of from 50 mbar to 10 bar.

12. The method of claim 11, wherein the second reactive distillation column is maintained at a pressure which is lower than the pressure of first reactive distillation column.

13. An apparatus for continuous production of diaryl carbonates by reaction of a dialkyl carbonate and an aromatic alcohol in the presence of a transesterification catalyst comprising first, second and third reactive distillation columns, and first and second rectification column and a plurality of lines for transporting reactant and product streams, wherein:

(a) the first reactive distillation column is connected to input lines for the introduction of reactants, and to first and second transfer lines, said first transfer line running from the top of the first reactive distillation column to the middle of the first rectification column and the second transfer line running from the bottom of the first reactive distillation column to the second reactive distillation column;

(b) the second reactive distillation column is connected to third and fourth transfer lines, said third transfer line running from the top of the second reactive distillation column to the top of the second rectification column, and said fourth transfer line running from the bottom of the second reactive distillation column to the third reactive distillation column;

(c) the third reactive distillation column is connected to a first output line for providing diaryl carbonate product from the bottom of the third reactive distillation column and a first recycle line running from the top of the third reactive distillation column to the middle of the first reactive distillation column;

(d) the first rectification column is connected to a second product line for providing dialkyl carbonate/alkyl alcohol azeotrope from the top of the first rectification column, and a second recycle line running from the bottom of the first rectification column to the bottom of the first reactive distillation column; and

(e) the second rectification column is connected to a third product line for recovering alkyl aryl ethers from the bottom of the second rectification column and a third recycle line running from the top of the second rectification column.

14. The apparatus of claim 13, wherein a fifth and sixth transfer lines run in opposing directions between the bottom of the first rectification column and the top of the second reactive distillation column.

15. The apparatus of claim 13, wherein an augmentation line is connected to the fourth transfer line for introduction of an augmenting reactant stream into the third reactive distillation column.

16. The apparatus according to claim 13, wherein the first, second and third reactive distillation columns each comprise a reactive portion and a rectification portion, and wherein the reactive portion of each column contains packing or fixed internals effective to provide 10 to 60 theoretical distillation steps.